STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forestland proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **TOWER** *Agreement #:* **30-076209**

2. Name of applicant: **Department of Natural Resources**

3. Address and phone number of applicant and contact person:

   Pacific Cascade Region
   601 Bond Road
   PO Box 280
   Castle Rock, Washington 98611-0280
   Phone: (306) 274-2035
   Contact Person: Eric Wisch

4. Date checklist prepared: **March 2004**

5. Agency requesting checklist: **Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* **FY-2005**
   b. *Planned contract end date (but may be extended)* **FY-2007**
   c. *Phasing:* **not applicable**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Yes

   Timber Sale

   a. *Site preparation:* **Slash piling/burning and/or aerial herbicide application may be necessary.**
   b. *Regeneration Method:* **Hand planting of Douglas-fir and Noble fir seedlings shall be completed subsequent to harvest and site preparation operations**
   c. *Vegetation Management:* **Herbicide and/or hand cut, if needed**
   d. *Thinning:* **Precommercial thinning (PCT) will be conducted if needed following a PCT survey**

   Roads: **Road maintenance assessments will be conducted annually and may include periodic ditch and culvert cleanout, and road grading as necessary to minimize erosion and failures. The PH 1000, PH 3000 & PH 3700, PH 3700 Extension and PH 3701 roads are permanent roads and shall remain open.**

Rock Pits and/or Sale: **The pit will be maintained in a safe condition with proper drainage. The rock pit may be used for other current or future projects in the vicinity.**

Other: **Direct sale of firewood from the sale area may occur following harvest completion. Firewood salvage of logging residue may occur following harvest**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐*303 (d) – listed water body in WAU:* ☐*temp.* ☐*sediment* ☐*completed TMDL (total maximum daily load):*
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* **Road plan available at Pacific Cascade Region**
☒*Wildlife report:* **Biologist report(s) available at Pacific Cascade Region**
☒*Geotechnical report:* **Geology report available at Pacific Cascade Region**
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* **Rock pit plan available at Pacific Cascade Region**
☒*Other:* **Spotted owl habitat mapping, marbled murrelet reclassified habitat maps, Forest Practices Activity Maps, WAU map for rain-on-snow areas, Forest Resource Plan (DNR, July 1992), State soil survey, DNR GIS databases, Habitat Conservation Plan (January, 1997), HCP Checklist (attached), Slope Stability Checklist, Planning and Tracking Special Concerns Report and associated maps.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No

10. List any government approvals or permits that will be needed for your proposal, if known.

☒*HPA:* **Blanket HPA for Type 4 and 5 waters # 00-F3520-02** ☐*Burning permit*
☐*Shoreline permit*
☒*Incidental take permit* **1168 and PRT-812521** ☒*FPA #2910396* ☐ *Other:*

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. Complete proposal description:

Proposal area (gross acreage): This proposal consists of approximately 82 gross acres of 90-95 year old timber located in the NE ¼ of Section 19, Township 6 North, Range 2 East, W.M. Within the sale area, (68 net acres) field reconnaissance revealed a Type 3 stream (Johnson Creek) along the northwestern edge of the sale with one Type 4 stream tributary to the aforementioned Type 3. Two Type 5 streams are also tributary to Johnson Creek along the northwestern edge and one Type 5 watercourse is tributary to Johnson Creek from the western boundary of the sale area.

Approximately 620 scattered and clumped leave trees were distributed throughout the unit to preserve structural diversity for wildlife and meet the requirements of the Forest Resource Plan and the HCP, while considering the operational safety of cable yarding systems. All scattered leave trees have been marked with blue paint, and all leave tree clumps have been marked with Leave Tree Area tags combined with pink flashers. The large leave tree area along the northwestern boundary provides, in addition to meeting retention requirements and wildlife values, slope protection as the area was determined to be currently unstable. Thus, for that clump the Leave Tree Tags assure that the area can be identified as unstable for future management activities. Another consideration in determining leave tree areas in the sale was the location of large residual trees and snags. The previously mentioned large leave tree area has approximately half the trees required to be retained as part of this sale. This allows for a contiguous area containing residual Douglas-fir trees up to 6 ½ feet in diameter and similarly sized snags to be retained. This unique area will provide considerable habitat as well as provide a large protected area between two regeneration harvest areas. Two smaller leave clumps along the northwestern boundary were installed to also protect residual trees. The option of pooling many trees into one clump was examined by a DNR biologist in the field, with the biologist's concurrence of this idea, the leave area has been implemented as part of the proposal.

Access to the sale will be created with two new, permanent roads. One is almost entirely located on a ridge top (PH 3701) and the other (PH 3700 ext.) will require full bench construction to hit a ridge top with a safe turn-a-round area for truck traffic and logging machinery. An alternate access route was considered in lieu of the PH 3701 road. The alternate route would have been from a old road grade that exists on the opposite side of the drainage to the north of the sale area. This alternate route would have required several water crossings and construction through a "bald" area, described in the State's approved HCP. A minor amount of pre-haul maintenance (3250 feet) will be needed on the existing portion of the PH 3700 prior to log haul commencing.

Three balds' were identified during the layout phase of the timber sale. No activity shall take place within or over top of the identified balds. It was suggested by the DNR's Heritage group that harvest will be allowed to the edge of the bald to allow for possible habitat expansion. This suggestion has been incorporated into this proposal.

Existing roads, HCP balds, Johnson Creek, leave tree areas, required riparian management zones, and previous regeneration units adjacent to this unit determined the shape of the sale area.

Sale of Timber

Estimated Total Volume: 3,300 mmbf

Total Proposal Area Acres (Gross): 82 acres
Total Leave Tree Acres: 8 acres
Total RMZ Acres: 6 acres
Total Net Harvest Acres: 68 acres

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

Overall Unit Objective:

The objective for this sale is to provide sustainable financial benefit to trust 10 (Scientific School). Objectives for the unit includes the production of sawlogs, poles, and pulp material while protecting some unique wildlife habitat located throughout the sale area. The aforementioned will be obtained through the retention of wildlife clumps and legacy trees. In addition, this stand will be managed in a manner that protects site productivity and maintains the integrity and water quality of adjacent streams.

Pre-harvest Stand Description:

The stand is comprised of primarily mature Douglas-fir with a minor component of Hemlock, Red Alder, Bigleaf Maple and Bitter Cherry. The stand is approximately 90-95 years of age with stand initiation most recently occurring as a result of a wildfire event around the turn of the century. While catastrophic, the fire did not kill the entire stand, and as a result, a small component of residual Douglas-fir (80 inches plus) exist onsite (primarily lower on the slope near the Type 3 water) along with large snags with excellent habitat qualities. The area containing the most unique habitat is located to the extreme north of the harvest area and lies below an unstable feature. To mitigate the unstable feature and provide for an ongoing legacy patch of snags and residual trees, this area will be tagged out of the harvest area with Leave Area tags in conjunction with the region biologist. The Leave Area will be identified in the DNR's P&T database. The stand is single-storied and primarily even-aged. The average diameter at breast height for the stand is approximately 18-20 inches with average tree heights approaching 150 feet. The primary understory species include sword fern and vine maple.

Harvest Systems:

This is a regeneration harvest. The harvest system for this proposal will be approximately 10% ground based with the remaining area being cable yarded. Tail holds will be needed on the north side of the Type 3 stream (Johnson Creek). The existing blanket HPA for hanging across type 3-5 waters will be used for this proposal. There will be no hanging on potentially unstable landforms such as inner gorges.

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Roadwork is outlined below, with site-specific details in the timber sale road plan available at the Pacific Cascade Region office.

Road Narrative:

To provide access to the project as proposed, the PH 3700 road will be extended approximately 1,100 feet to access the eastern portion of the sale area. The PH 3701 will be constructed to access the north and western areas of the sale. The PH 3700 and PH 3000 roads will require pre-haul maintenance prior to log haul. The pre-haul maintenance (3250') will involve reshaping of the road prism and ditch clean out.

Rock Pits:

The PH-3000 rock pit located on the eastern edge of the NW ¼ of the SW ¼ of section 20 located in Township 6 North, Range 2 East, will be used as the rock source for this timber sale, should rock be required.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		**2,824**	**2**	**0**
Reconstruction		**0**		**0**
Abandonment		**0**	**0**	**0**
Bridge Install/Replace	**0**			**0**
Culvert Install/Replace (fish)	**0**			
Culvert Install/Replace (no fish)	**3**			

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map. See also color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description: **Northeast ¼ , Section 19, Township 6 North, Range 2 East, W.M.**

b. *Distance and direction from nearest town (include road names):* **The proposal is located approximately 8 miles northeast of Woodland, WA. The sale area is accessed via SR-503, Little Kalama River Road, Aho-Carson Road, PH-1000, PH-3000 and finally the PH 3700 road. See attached timber sale map for further details.**

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")*

WAU Name	WAU Acres	DNR WAU Acres	Sub-Basin Number	Sub-Basin Acres	DNR Sub-Basin Acres	Proposal Acres in Sub-Basin (estimated)
Woodland	**37,840**	**5,626**	**8**	**3,042**	**2,606**	**82**

The acreages listed above are from DNR /HCP/ WAU data layers.

13. *Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)*

The proposal is located in the Woodland WAU, sub-basin 8. The DNR currently manages approximately 5,626 acres (15%) of the total WAU. Private timber companies manage the majority of the WAU. A small portion of the bottomlands and foothills are experiencing land use conversions. Currently the department manages approximately 2,606 acres (86%) of the sub-basin. Over the last 8 years, the DNR has regeneration harvested approximately 1,140 acres and thinned 162 acres in the WAU. In

total for all harvest activities, private and DNR, 2,150 acres have been harvested within the last eight years. This proposal will slightly increase the even-aged harvest acres for the WAU and sub-basin. After harvest, approximately 55% of the vegetation within the WAU will be greater than 25-years-old.

The DNR has acquired through a land exchange with a private timber company, commercial forestland that represents some of the harvested acres now associated with department lands in the WAU and sub-basins. The recent acquisition of lands will further perpetuate the management of forestlands and limit current urban sprawl associated with the area. Further, the exchange means additional protection of upland waters, wildlife, soils and forest road systems in this area.

The photo history shows numerous shallow rapid failures in most of the sub-basins extending off of Davis Peak and most are associated with roads and others appear related to loss of root strength. The Colvin Creek slide (a recent mass failure within the WAU) was a shallow rapid failure superposed on the toe of a young deep-seated feature and thus, conditions in this sale are not similar. Mitigation measures of bounding out potentially unstable slopes and headwall areas have been implemented to further lessen the chance of cumulative change to the surrounding groundwater saturation zone. See Geologist report for this proposal.

To help protect soil resources and surface erosion, cable roads will be limited and if need be will be treated with some type of water energy dissipation device. This may include, waterbars, hay, or grass seeding of roads.
Lead-end suspension of logs will be required of cable harvesting to protect soil and minimize the chance of erosion. Also, cable tail holds will be likely over Johnson Creek. This will be hand strung to reduce damage to the riparian area. There will be no yarding over or through riparian areas. Also, road construction associated with this proposal has been designed by engineering staff to reduce the chance of mass failure and erosion. The new roads will be built with full bench construction techniques where slopes dictate to assure stability.

No other environmental concerns were identified during the proposal process. Currently the southern area of the sub-basin is going through an increased amount of land use conversions.

Future planned activities in the sub-basin in the upcoming year include road building, silvicultural activities and timber harvesting. These activities will continue to follow the Forest Practices Rules, the HCP and the Forest Resource Plan. Following these regulations will help ensure that all the components of the environment are adequately protected and serve to minimize the chance of environmental impact and create no significant cumulative impact.

***Note to reader: The date above was calculated from DNR intranet GIS layers. Rounding of acres may be to the nearest 10 or 50 acres.**

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☒Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Woodland WAU contains 37,840 acres of timberland where less than one-sixth is owned by the State of Washington. The Woodland WAU can be described as rugged foothills of the Cascade range with steep slopes ascending from the drainages to gradual along the ridge tops. Inner gorge (steep stream adjacent) slopes are common as are hollows which tend to occur within the headwater areas of tributary streams. Soils are thin on the steeper, upper portions of the backslope where bed rock exposures are common. Elevations range from approximately 200 to 2,800 feet. The climate is moist and temperate with mild, wet winters and warm, dry summers. An average precipitation of 80 inches per year is received in the higher elevations while an average of 40 inches per year is received in the bottomlands. The higher elevations are within the Rain-on-Snow zone. The primary forest type is even-aged Douglas-fir/Western hemlock with Western red cedar, red alder and maple concentrated in the riparian areas.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposed harvest area occurs mostly in the rain on snow zone and is situated between 1620 and 2780 feet elevation; the topography is typical of this WAU with slopes ranging mostly from approximately 0 to 65%.

b. What is the steepest slope on the site (approximate percent slope)?

110%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

The acres listed in the soils table below are for those areas where timber harvest takes place.

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
6090	**Gravelly silt loam**	**30-65**	**14**	**Low**	**Medium**
6097	**Gravelly loam**	**30-65**	**12**	**Low**	**Medium**
6099	**Gravelly loam**	**65-90**	**39**	**High**	**High**
6803	**Gravelly silt loam**	**30-90**	**3**	**Low**	**Medium**

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

Field verification was conducted by a geologist to delineate potentially unstable slopes and determine appropriate protection measures where needed. One area had evidence of episodic debris sliding and occasional rock fall indicating these are currently active mass wasting processes. This area was located on the northwest side of the proposal and was excluded from the sale area. All the areas field identified as having potential slope instability were excluded from the proposed harvest area.

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

Evidence of local shallow failures, that most likely have occurred under forested conditions are apparent on some stream adjacent slopes and in some headwall areas of type 5 streams. Several large, subdued convergent areas with subtle, apron-like fan deposits extending over most of the lower slopes indicate both debris sliding and rock fall were probably much more extensive in the geologic past but have since waned with the resultant landforms and deposits stabilizing (see geologist report).

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

Evidence of numerous slope failures have occurred within the Woodland WAU that are attributable to land clearing or road building operations. In addition, during periods of high precipitation portions of forest roads were washed away as the result of plugged culverts overflowing. In general, most slides within the Woodland WAU have originated in over steepened stream headwalls or from road fill slopes situated within steepened gullies. A few failures, mostly initiating within headwall hollows, appear to have been associated with loss of root strength after harvest.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☒*No* ☐*Yes, describe similarities between the conditions and activities on these sites:*

This proposal is not similar to where previous failures have occurred in the Woodland WAU.

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

Slope stability protection measures:

- **New roads have been located to avoid any identified unstable areas.**
- **Cable harvest systems with adequate suspension (lead end at minimum) will be required for harvest on all steep slopes within the unit.**
- **Approximately five acres of potentially unstable slopes were excluded from the harvest area.**
- **All identified potentially unstable areas have been excluded from the harvest areas.**

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **2** *Approx. acreage new landings:* **1** *Fill source:*

Fill source is native earth material.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, some incidental erosion may occur as a result of this proposal, but should be confined to the associated roads and harvest area. See B. 1. h. below for mitigation.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

<3% of the proposal will be in permanent rocked running surface.

h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Protection measures to reduce erosion associated with roads:

- **Seasonal timing restrictions will be used to minimize road construction activities during wet weather conditions.**
- **Soils exposed during road construction, including any waste areas, will be treated with erosion control measures, such as re-vegetation.**
- **Roads will be maintained as needed to control water runoff and avoid delivery of sediment to live water.**
- **Drainage structures will be properly installed, designed, sized, and maintained.**
- **Sediment control measures will be used as necessary during active haul to prevent sediment delivery to water.**
- **Timing restrictions or temporary road shutdown will be used as necessary during active haul to prevent sediment delivery to water.**
- **Periodic maintenance and inspection of the road system to insure proper function.**

Protection measures to reduce erosion associated with active logging operation:

- **Ground yarding will be restricted to slopes less than 30%.**
- **Cable yarding areas will maintain lead-end suspension.**
- **Ground yarding restrictions are prescribed to minimize soil impacts, including compaction and rutting.**
- **Skid trails and yarder roads will be water barred as necessary to minimize sediment delivery to live water.**

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling,* automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from logging equipment and dust from vehicle traffic and logging equipment.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map and forest practice base maps.)*

All streams have been typed using the Interim Water Typing criteria in the Forest Practices Rules.

a) Downstream water bodies:

Johnson Creek, Lake Merwin, Lewis River and ultimately the Pacific Ocean

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Johnson Creek	**3**	**1**	**165**
Unnamed	**4**	**1**	**100**
Unnamed	**5**	**3**	**0**

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

A portion of this proposal was designed around Johnson Creek within the proposal area. The sale was designed to leave a 100-year site index buffer of 165 feet on Johnson Creek and a 100' horizontal buffer on the Type 4 stream identified in the sale area. No wind buffers were applied to the sale as there was very little evidence of windthrow in adjacent regeneration units.

All streams within the proposed harvest area have been evaluated in accordance with the Forest Practice Interim Water Type Rules and afforded the appropriate protection. Additionally, these water types were protected per HCP Procedures.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map.)*
Description (include culverts):

Falling and yarding of timber will occur within 200 feet of described waters; falling and yarding away from streams will be required. To achieve desired yarding deflection, it will be necessary to suspend cables above the buffer zones of the Type 3 & 4 streams. Lead-end suspension of logs will be required during yarding operations. No yarding will be allowed or needed over Type 3 or Type 4 waters, only hanging tail hold extensions to gain adequate yarding deflection.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Not applicable.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

The potential for surface and/or mass erosion does exist in the Woodland WAU and sub-drainage basins, typically in headwalls, steep hollows, and inner gorges along main streams. A storm event could result in

eroded material entering surface water. Locally, there are deep-seated landslides with some being deeply eroded and some being fairly distinct.

Regarding surface erosion potential within the Woodland WAU, approximately 49% has medium soil erosion potential while ~13% has high soil erosion potential. Within the Woodland WAU, approximately 4% has a medium soil mass wasting potential while ~4% has a high soil mass wasting potential.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☐*No* ☒*Yes, describe changes and possible causes:*

Some of the small streams have had minor slope failures along their bank. This resulted in added sediment and LWD in the stream, but does not usually change the channel dimensions. The medium and larger size streams were washed out during the 1996 floods and lost much of their LOD. However, most have had new material begin replacing what was lost. Most streams show no signs of aggradation or erosion. Old debris flow deposits have been observed along the lower reaches of Johnson Creek indicating that fairly significant mass wasting events have occurred in the past.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☐*No* ☒*Yes, explain:*

This proposal may cause some minimal increase in sedimentation as a result of road construction and harvest operations. Buffered riparian areas will help preserve natural stream and water quality.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?

There are 3.6 miles per section of State roads and 5.5 miles per section of Non-State roads in the Woodland WAU. It is estimated that less than 3% of the roads carry water for an extended period.

There are 3.4 miles per section of State roads and 4.0 miles per section of Non-State roads in the Woodland Sub-basin #8.

Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☐*No* ☒*Yes, describe:*

There are roads within State managed lands that intercept sub-surface flow and deliver surface water to streams. However, those issues are being addressed with Timber Sale proposals that use specific roads for haul routes and through the Road Maintenance and Abandonment Planning process.

11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☐*No* ☒*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

842 acres (2%) of the Woodland WAU is located in the R-O-S zone.
752 acres (25%) of the Woodland #8 sub-basin is located in the R-O-S zone.

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

In sub-basin #8 430 acres of (57%) of the area within the R-O-S zone is hydrologically mature. (this is based on DNR ownership only, although only approximately 4 acres of the sub-basin is located in private holdings.

13) Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?
☐*No* ☒*Yes, describe observations:*

In the winter of 1996, a 100-year event occurred. The rainstorm set rainfall and flood level records in Southwest Washington and Northwestern Oregon. The event caused many shallow mass-wasting events. Many stream channels were affected by this flood event. The full extent if this is not known. Many channels were altered in this event, due to high stream flows with accompanying sediment loads and possibly large woody debris delivery.

14) Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.

This proposal may slightly change the timing/duration/amount of peak flow; flow rates may increase slightly during low and high flow periods during the first decade of the new forest. See B.3a.16 below.

15) Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?
☒*No* ☐*Yes, possible impacts:*

The confluence of Johnson Creek with the Lewis River is downstream from the Lewis River Hatchery; this proposal is not expected to have an effect on this hatchery or other water resource users.

16) Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.

Protection measures:

- **As policy, no harvest units will be greater than 100 acres.**
- **Leave trees, and RMZ's will continue contribute toward hydrologic capacity (evapotranspiration).**
- **Roads will be maintained as needed to control water runoff and avoid delivery of sediment to live water.**
- **Drainage structures will be properly installed and maintained.**
- **Sediment control measures will be used as necessary during active haul to prevent sediment delivery to water.**
- **Timing restrictions or temporary road shutdown will be used as necessary during active haul to prevent sediment delivery to water.**
- **Road maintenance will occur periodically to insure proper drainage of surface water runoff.**
- **Ground yarding restrictions are prescribed to minimize soil impacts including compaction and rutting.**
- **Skid trails will be water barred as necessary to minimize sediment delivery to live water.**

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Yes, some subsurface flow may be intercepted by existing road cut banks. It is unlikely that the proposed new roads will intercept any substantial subsurface flow because new construction will occur at or near the ridge tops.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel and other lubricants may inadvertently be discharges to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site.

3) Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?
☒*No* ☐*Yes, describe:*

There will be insignificant down stream effects.

a) Note protection measures, if any.

None.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water will be collected in the ditches and culverts and discharged onto the forest floor.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Minimal logging slash may enter surface water.

a) Note protection measures, if any.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

See B.1.h, and B.3.a.16, above for additional erosion control measures.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☒other: Bitter Cherry
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☐*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* sword fern, Oregon grape, vine maple, wood rose
☒grass
☐pasture
☐crop or grain
☐wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

All conifer and hardwood trees, except at least 620 wildlife reserve and green recruitment trees, will be removed as part of this timber harvest proposal. Understory vegetation will be disturbed and /or reduced within the proposed harvest area as a result of timber felling and bucking operations.

1) *Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")*

To the north and south of the sale area is mature timber. To the east of the sale area is an approximately 10 year old plantation and to the west is a plantation established approximately 14 years ago.

2) *Retention tree plan:*

Retention trees are primarily clumped with a small number of scattered individual leave trees. As mentioned earlier there is a larger reserve tree clump located in the northwest portion of the proposal with some unique habitat components. There are several large remnant trees as well as some very large snags. This area will be left as a retention tree clump as per recommendations from region biologist. The majority of the leave tree clumps and trees are located on the edge of this proposal for two reasons. First, as stated above the highest quality habitat trees were simply located on the edges and within and adjacent to riparian areas. Second, cable yarding must be utilized harvest the sale area. The locations of the leave trees adjacent to the sale boundary are conducive to facilitate cable yarding on difficult terrain (topography).

c. List threatened or endangered *plant* species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None found				

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Following harvest the site will be planted back with Douglas-fir seedlings.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon*, ☒other: ruffed grouse
mammals: ☒deer, ☒bear, ☒elk, ☐beaver, ☒other: coyote, bobcat
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes*, ☐*caves*, ☐*cliffs*, ☐*oak woodlands*, ☒*balds*, ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

This proposal is located within a status 3 Northern Spotted Owl circle. The proposal is not located within 70 acre core habitat area and no further protection is necessary based on the approved HCP.

c. Is the site part of a migration route? If so, explain.
☐*Pacific flyway* ☒*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the Columbia River flyway, which is part of the Pacific Northwest forests; many Neo-tropical birds are closely associated with riparian areas, cliffs, snags and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's Habitat Conservation Plan. Migratory waterfowl also use the Columbia River flyway; the area for this proposal is not generally the type of area used for resting or feeding by migratory waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

Occurrences of Cascade Torrent Salamander are near the harvest unit. Buffers on riparian areas should help protect potential salamander habitat.
This activity conforms to the 1992 Forest Resource Plan, the 1997 Habitat Conservation Plan and Forest Practices rules and regulations.

1) *Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.*

A buffer has been left along the Type 3 and Type 4 water to protect the waters and provide wildlife trees/habitat. Wildlife reserve trees of different species in various diameter classes have been clumped along the riparian buffers and throughout upland areas to provide habitat/cover for various species (See Timber Sale Map).

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal health hazards due to operating heavy equipment and the minor spillage of fuel and lubricating oils are always present with this type of operation. Contractual clauses require operators to use established safety standards. The risk of forest fire may be increases for approximately two years following harvesting due to logging slash.

1) Describe special emergency services that might be required.

Department of Natural Resources, private and rural fire department fire suppression resources; emergency medical or air ambulance for personnel injuries. Hazardous material spills may require Department of Ecology and/or county assistance.

2) Proposed measures to reduce or control environmental health hazards, if any:

Fire equipment will be required on-site during closed fire season. Operations will cease if relative humidity falls below 30%.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Heavy equipment, chain saws, yarding whistled and trucks will produce noise during periods of operation.

3) Proposed measures to reduce or control noise impacts, if any:

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

- **Timber Production, Forest management**
- **Rock from rock pits, may be sold to other forestland owners for forest road maintenance.**

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

None.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

f. What is the current comprehensive plan designation of the site?

g. If applicable, what is the current shoreline master program designation of the site?

Not Applicable.

h. Has any part of the site been classified as an “environmentally sensitive” area? If so, specify.

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

These harvest units, will be reforested with commercial species and retained as forestland.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☒*No* ☐*Yes, viewing location:*

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☒*No* ☐*Yes, scenic corridor name:*

3) How will this proposal affect any views described in 1) or 2) above?

c. Proposed measures to reduce or control aesthetic impacts, if any:

Wildlife reserve trees and clumps, and riparian areas will soften aesthetic concerns. This proposal is located in an area that has traditionally been used for this type of activity.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Hunting, Mountain Biking and hiking.

b. Would the proposed project displace any existing recreational uses? If so, describe:

Recreational activities may be temporarily interrupted during periods of operation on the site.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None found.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None found.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

Not applicable.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

See A.12.b and the timber sale vicinity map.

1) Is it likely that this proposal will contribute to an <u>existing</u> safety, noise, dust, maintenance, or other transportation impact problem(s)?

No.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Some new forest roads will be constructed and some existing roads will be improved. See A.11.c for details.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

There will be no impact from this proposal.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

During harvest, 25-30 vehicle trips per day to the sale area may occur. This will take place for three to four months. Upon completion of harvest activities, traffic levels will vary depending on seasonal use.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

There may be an increased need for wildland fire response or emergency medical response during the duration of harvest and road building operations.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: _____ Date: _____
Title

Reviewed by: _____ Date: _____
State Lands Assistant Manager

Comments: _____